REMARKS

Claims 17, 18, and 25-27 are currently being amended to directly address the Examiner's newly raised arguments on pages 6 and 7 in the previously issued Office Action for maintaining the previous rejections to Fisher, et al. in view of Mehta, et al., and Datta, et al. In particular, Applicant is currently amended claims 17, 18, and 25-27 to recite a tensile E modulus ranging from 150 MPa to 800 MPa, as well as amending the aforementioned claims to clarify that the propylene copolymer compositions are obtained by at least two successive polymerization steps, with each successive polymerization step comprising a metallocene compound. Moreover, claims 17, 18, and 25-27 are currently being amended to include a metallocene of formula (VIII). Basis for the amendments can be found throughout Applicant's specification, including on page 4, line 38 - page 5, line 3; page 9, lines 28-35; page 10, lines 9-11; and page 10, line 13 - page 13, line 40 in Applicant's specification.

The amendments presented herein do not introduce new matter within the meaning of 35 U.S.C. §132. Accordingly, Applicant respectfully requests the Examiner to enter these amendments.

1. Rejection of Claims 17-30 Under 35 U.S.C. §103(a) to Fischer, et al. in view of Mehta, et al.

Applicant respectfully traverses the rejection of claims 17-30 to U.S. Patent 6,248,829 (herein referred to as, "Fischer, et al.") in view of U.S. Patent 6,583,227 (herein referred to as, "Mehta, et al.").

The U.S. Supreme Court in Graham v. John Deere Co., 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under §103 by (1)

determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness.

Accordingly, for the Examiner to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §2142.

Arguments in Applicant's previous responses with respect to Fischer, et al. and Mehta, et al. are incorporated herein by reference in their entirety.

With respect to the instant rejection, the pending Office Action states on page 6, lines 10-12,

> Applicants complain the Emodulus values of Fischer et al are between 1173 and 1326 MPa, which lies in direct line with the recited range of '100 to 1500 MPa.'

However, first and foremost, in Applicant's previous response of January 26, 2009, Applicant merely reiterated the fact that Examples 4-8 in Fischer, et al. disclose tensile E modulus values ranging from 1173-1326 MPa (ISO 527), while Applicant's exemplary propylene copolymer composition comprises a tensile E modulus value of 481 MPa (ISO 527). In fact, Applicant's response of June 27, 2008 outlined this difference, amongst others, while the subsequent Office Action issued on July 24, 2008 failed to address this issue. Notwithstanding, in response to the

Examiner's new argument captioned above, which is being supplied in the currently pending Office Action as a basis for maintaining the current rejection to Fischer, et al. in view of Mehta, et al., Applicant has amended claims 17, 18, and 25-27 to address the Examiner's new argument. In particular, Applicant has amended the aforementioned claims to recite, in part, that the propylene copolymer composition comprises a tensile E modulus value ranging from 150 MPa to 800 MPa. In this regard, in addition to Examples 4-8 having tensile E modulus values ranging from 1173-1326 MPa (ISO 527), it is noted Fischer, et al. discloses in col. 3, lines 53-55,

> In the case of particularly preferred polymers of propene, the tensile modulus of elasticity (E) **should be more than 1150 MPa**. (Emphasis added)

Accordingly, since Mehta, et al. does not remedy this deficiency of Fischer, et al., for this reason alone, Applicant respectfully believes the instant rejection should be withdrawn.

Moreover, the current Office Action goes on to state on page 6, lines 12-19,

> Nothing is recited in the claims as regards Charpy notched impact values. Specific examples cannot be construed to reflect the entirety of teachings of a reference, and as such, specific examples cannot belie the teachings of the reference as a whole, as it is applied against the instant claims. Applicants have failed to show any direct comparison with the reference teachings. Since the comparisons applicants have pointed to employ isolated examples, and not the teachings as a whole, nothing has been shown as to establish criticality.

With respect to the Charpy values, Applicant will address this in greater detail below. Applicant responds as follows with respect to the Examiner's argument that, "Specific examples cannot be construed to reflect the entirety of teachings. . . ." and, ". . . specific examples

cannot belie the teachings of the reference as a whole. . . ." As noted above, Fischer, et al. clearly discloses the polymers therein preferably have tensile E modulus values of **more than 1150 MPa**. This is further collaborated insomuch that every working Example of the invention in Fischer, et al. is above this range (i.e., above 1150 MPa). Accordingly, Applicant is unsure how, by Applicant noting that every working Example in Fischer, et al. discloses tensile E modulus values ranging from 1173 - 1326 MPa, this belies the teachings of Fischer, et al., since after all, Fischer, et al. teaches the polymers preferably have tensile E modulus values more than 1150 MPa, and every working Example in Fischer, et al. supports this. This is undisputable. In fact, Applicant respectfully believes Applicant is relying upon the *entire* disclosure of Fischer, et al. as a whole, including those portions that teach away from Applicant's currently claimed propylene copolymer compositions, whereas the Examiner has not acknowledged the clear differences between Fischer, et al. and Applicant's currently claimed propylene copolymer compositions. See MPEP §2141.02 (VI).

Furthermore, Applicant respectfully traverses the Examiner's argument that Applicant has, ". . . failed to show any direct comparison with the reference teachings." However, this is indubitably incorrect. In fact, Applicant has clearly outlined the differences in Applicant's propylene copolymer compositions and the compositions disclosed in Fischer, et al., and has shown a direct comparison between the differences in the tensile E modulus values, and the Charpy impact toughness values and Charpy notched impact toughness values between the compositions currently claimed by Applicant, and those disclosed in Fischer, et al. In particular, as outlined in Applicant's previous

responses, Applicant has unexpectedly found the currently claimed propylene copolymer compositions comprise much lower tensile E modulus values (as discussed above), as well as much higher Charpy impact toughness values and much higher Charpy notched impact toughness values than the compositions of Fischer, et al. In fact, as discussed above, Examples 4-8 in Fischer, et al. disclose tensile E modulus values ranging from 1173-1326 MPa (ISO 527), while Applicant's exemplary propylene copolymer composition comprises a tensile E modulus value of 481 MPa (ISO 527). Accordingly, Applicant's exemplary copolymer comprises a tensile E modulus value that is **about 244%** to **about 276%** less than Examples 4-8 in Fischer, et al. Moreover, the Charpy impact toughness values and the Charpy notched impact toughness values of Examples 4-8 in Fischer, et al, as well as Applicant's exemplary propylene copolymer are provided in the chart below.

	Ex. 4 (kJ/m^2)	Ex. 5 (kJ/m^2)	Ex. 6 (kJ/m^2)	Ex. 7 (kJ/m^2)	Ex. 8 (kJ/m^2)	**Instant Exemplary Copolymer (kJ/m^2)**
Charpy Impact Toughness (+23°C)	200	220	228	236	-	**NF***
Charpy Impact Toughness (0°C)	80	85	96	115	101	**NF***
Charpy Impact Toughness (-20°C)	16	16	16	17	16	**257**
Charpy Notched Impact Toughness (+23°C)	4.0	4.4	4.9	5.3	5	**45.0**
Charpy Notched Impact Toughness (0°C)	1.2	1.4	1.5	1.5	2	**32.5**

Charpy Notched Impact Toughness (-20°C)	1.0	0.9	0.9	0.9	1	**2.5**

* NF: No Fracture

Accordingly, with respect to the Charpy impact toughness values and the Charpy notched impact toughness values, Applicant's exemplary copolymer unexpectedly comprises much higher values. However, the Examiner has not acknowledged the fact that the compositions of Fischer, et al. are clearly different than those currently claimed and produced by the process limitations recited herein, as well as the fact that the Examiner has not acknowledged the full disclosure of Fischer, al., including portions that would clearly teach away from Applicant's currently claimed compositions. However, this is the antithesis of obviousness, and is not the objective of the examination process.

As for the Examiner's contention that, ". . . the comparisons applicants have pointed to employ isolated examples, and not the teachings as a whole. . . .," Applicant responds as follows. In particular, Applicant has not relied merely on isolated examples in Fischer, et al. as purported by the Examiner. In fact, Applicant has relied on *every working Example of the invention* in Fischer, et al. to clearly establish the differences in the compositions of Fischer, et al. and those currently claimed by Applicant. Furthermore, with respect to the tensile E modulus values, Applicant has clearly outlined where in the general disclosure Fischer, et al. teaches away from Applicant's currently claimed propylene copolymer compositions. However, the Examiner has yet to acknowledge these differences.

Moreover, Applicant responds as follows with respect to the Examiner's contention that, "Nothing is recited in the claims as regards

Charpy notched impact values." However, Applicant respectfully believes Applicant is not obliged to recite anything in the claims with respect to Charpy impact values or Charpy notched impact values. Contrarily, Applicant has noted these differences since it seems the Examiner's position is that the *only* difference between the compositions of Fischer, et al. and the currently claimed compositions resides in the lack of the inclusion of a nucleating agent. The Examiner's attention is directed to the various Office Actions issued for the instant application. However, given the clear differences between the Charpy impact values and Charpy notched impact values of the currently claimed compositions and the those of Fischer, et al., which are outlined above, as well as the differences in the tensile E modulus values, it is clear that the compositions of Fischer, et al. are clearly different than those currently claimed by Applicant due, in part, to the recited processing steps. However, the Examiner has not acknowledged, nor has the Examiner accounted for these differences.

Furthermore, the Examiner has not explained *why* and *how* he believes Mehta, et al. would overcome the numerous deficiencies of Fischer, et al. if combined with Fischer, et al., as suggested by the Examiner. However, since the Examiner has not addressed these differences, Applicant respectfully believes the Examiner has not established a *prima facie* case of obviousness. See MPEP §2142. Therefore, for all the reasons outlined above, Applicant respectfully believes the instant rejection should be withdrawn.

Notwithstanding the above, Applicant reiterates for reconsideration by the Examiner the arguments outlined in Applicant's previous responses of January 26, 2009 and June 27, 2008, which have not yet been addressed

in the instant response *supra*. In particular, as previously noted in Applicant's previous responses, Mehta, et al. discloses in col. 2, line 60 - col. 3, line 6,

> The objects of the invention are achieved by providing **a propylene homopolymer** and copolymer having a broad molecular weight distribution, while maintaining a high level of crystallinity. This is achieved by providing in one embodiment a TCR propylene polymer comprising: (a) from 10 to 90 wt % **homopolymerized crystalline propylene** units; and (b) from 90 to 10 wt % crystalline propylene copolymer wherein the wt % of the comonomer based on the total weight of the polymer is in the range of from 0.05 to 15; wherein each polymer is prepared in a separate stage utilizing in each stage a metallocene catalyst system comprising two metallocene catalyst components and wherein the polymer has a molecular weight distribution (Mw/Mn) in the range of from 2.1 to 10. (Emphasis added).

Alternatively, Applicant is currently claiming a propylene copolymer composition comprising, at the very least, A) **a propylene copolymer** containing from 1 to 20% by weight of olefins other than propylene; and B) at least one **propylene copolymer** containing from 10 to 30% by weight of olefins other than propylene. Accordingly, since Mehta, et al. clearly relates to completely different polymers, Applicant respectfully believes Mehta, et al. clearly does not overcome the deficiencies of Fischer, et al.

Notwithstanding, as outlined *supra*, Applicant has unexpectedly found the currently claimed propylene copolymers comprise much lower tensile E modulus values, much higher Charpy impact toughness values, and much higher Charpy notched impact toughness values than the compositions of Fischer, et al. However, Mehta, et al. does not remedy these deficiencies in Fischer, et al. In fact, as outlined *supra*, Mehta, et al. discloses completely different polymer compositions.

Therefore, in light of the above, claims 17-30 are therefore

believed to be patentable over Fischer, et al. in view of Mehta, et al. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

2. Rejection of Claims 17-27 Under 35 U.S.C. §103(a) to Datta, et al.

Applicant respectfully traverses the rejection of claims 17-27 to U.S. Patent 6,635,715 (herein referred to as, "Datta, et al.").

The U.S. Supreme Court in Graham v. John Deere Co., 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under §103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness.

Accordingly, for the Examiner to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §2142.

Arguments *supra* regarding Fischer, et al. and Mehta, et al. are incorporated herein by reference in their entirety, as well as Applicant's arguments outlined in Applicant's previous responses.

With respect to the instant rejection, the Office Action states on page 7, lines 7-8,

> A closer reading of the claims does NOT provide specifically for a reactor blend, as purported.

In order to remove any ambiguity, and to further clarify that the currently claimed propylene copolymer compositions are reactor blends, Applicant has amended claims 17 and 25-27. In this regard, claims 17 and 25-27 now recite, in part, that the propylene copolymer compositions are obtained from at least two successive polymerization steps, wherein a catalyst system comprising a metallocene compound is used in each successive polymerization step.

Additionally, the current Office Action states on page 7, lines 8-13,

> Furthermore, the claims are drawn to a composition, per se, and have not been shown to differ in constitution from the polymer blend taught in the reference to Datta et al. The manner of production has little bearing of patentable weight on the composition. Since the compositions are identical, the products of these compositions would clearly be expected to possess identical characteristics.

However, in addition to amending the claims as outlined *supra*, Applicant has amended the claims to further recite a tensile E modulus ranging from 150 MPa to 800 MPa, which is being entered to directly address the new arguments raised by the Examiner in the instant Office Action. The highest tensile elongation reported in Datta, et al. is 4836 psi in Table 4, which corresponds to approximately **33 MPa**. Accordingly, Applicant's currently claimed propylene copolymer composition is approximately **4.5 to 24 times greater** than even the highest value disclosed in Datta, et al. In fact, most of the tensile elongation values disclosed in Datta, et al. are much lower than 33 MPa. See Tables 4-10 in Datta, et al. Accordingly, given the above, clearly the currently claimed compositions produced by the currently claimed successive polymerization process steps are different than the compositions of Datta, et al., which are produced

by physically blending the first polymer component (FPC) and the second polymer component (SPC) together as taught in Datta, et al. As such, for this reason alone, Applicant respectfully believes the instant rejection should be withdrawn.

Additionally, Datta, et al. discloses in col. 10, 16-47, and col. 11, 57-62,

> The Blend of First and Second Polymer Components
>
> The copolymer blends of first polymer component and second polymer component of the instant invention may be prepared by any procedure that guarantees the intimate admixture of the components. For example, the components can be combined **by melt pressing the components together** on a Carver press to a thickness of about 0.5 millimeter (20 mils) and a temperature of about 180° C., rolling up the resulting slab, folding the ends together, and repeating the pressing, rolling, and folding operation about 10 times. **Internal mixers** are particularly useful for solution or **melt blending**. Blending at a temperature of about 180° C. to 240° C. in a Brabender Plastograph for about 1 to 20 minutes has been found satisfactory. Still another method that may be used for admixing the components involves **blending the polymers in a Banbury internal mixer** above the flux temperature of all of the components, e.g., 180° C. for about 5 minutes. The complete admixture of the polymeric components is indicated by the narrowing of the crystallization and melting transitions characteristic of the polypropylene crystallinity of the components to give a single or a small range crystallization and melting points for the blend. These **batch mixing** procedures are typically supplanted by continuous mixing processes in the industry. These processes are well known in the art and include single and twin screw mixing extruders, static mixers for mixing molten polymer streams of low viscosity, impingement mixers, as well as other machines and processes, designed to disperse the first polymer component and the second polymer component in intimate contact.
>
> *****
>
> The mechanism by which the desirable characteristics of the present copolymer blends are obtained is not fully understood. . . . **However, the intimate blending of the polymers having the required crystallinity characteristics apparently results in a crystallization phenomenon that modifies the other physical properties of the propylene/alpha-olefin copolymer, thus measurably increasing its commercial utility and range of applications.** (Emphasis added)

Accordingly, Applicant respectfully believes one of ordinary skill in the art would not have modified the processing steps of Datta, et al. to try and arrive at Applicant's currently claimed compositions since, after all, Datta, et al. expressly teaches the criticality of *physically* blending the FPC and SPC together. See MPEP §2141.02 VI, §2143.01 V, and §2143.01 VI.

Furthermore, Applicant respectfully traverses the Examiner's contention on page 5, lines 11-18, that,

> Although the reference is silent as regards the haze values, a skilled artisan producing an identical product would have a high expectation to achieve the same haze values recited herein. Likewise, the amount of extractables would be expected, or easily controlled, as crosslink density will determine soluble fractions and a skilled artisan would know to manipulate these values for desired end-use characteristics. As such, a skilled artisan would have a high level of expectation of success following the teachings of the reference to achieve the claimed inventions.

However, first and foremost with respect to the reasoning above, Applicant objects to the Examiner's assumption that a skilled artisan would have produced "an identical product" as currently claimed by Applicant. As outlined above, the compositions currently claimed by Applicant are clearly different than those of Datta, et al. As such, the assumption that one of ordinary skill in the art would have produced an "identical product" in the first place, absent Applicant's specification, which is necessary to support the current reasoning, is clearly flawed. See Applicant's arguments *supra*.

Notwithstanding this flaw, the Examiner has not explained *how* and *why* one of ordinary skill in the art would have obtained the current claimed haze and extractable values. In fact, Applicant is confused as

to whether the Examiner is arguing: (*i*) the haze and extractable values are inherent in Datta, et al.; (*ii*) the haze and extractable values are optimized by a result effective variable; (*iii*) some combination of (*i*) and (*ii*); or (*iv*) something completely different than (*i*)-(*iii*). In fact, the current Office Action, as well as those preceding this action, have completely failed to address this issue; rather the Examiner has merely issued a blanket statement that the haze values would be the same, and that the extractable would be the same, or easily controlled, without any probative evidence or technical reasoning to support such a statement. However, this is clearly not the standard for establishing a *prima facie* case of obviousness.

As for the items (*i*) and (*ii*) listed above, if in fact the Examiner is relying on either of these doctrines to try and substantiate the current rejection, the Examiner is requested to provide evidence or some technical reasoning as to *why* the haze values would be inherent in Datta, et al., especially since Applicant has provided clear evidence that the currently claimed compositions are different than those disclosed in Datta, et al., or what result effective variable is supposedly being optimized to arrive at the currently claimed haze values. See MPEP §2163.07 (a) and §2144.05 (II)(B). Alternatively, if the Examiner's basis for maintaining the instant rejection is due to either item (*iii*) or (*iv*) outlined above, the Examiner is respectfully requested to clearly outline what the basis for the rejection is, as well as provide either evidence or some technical line of reasoning to support his position.

In light of the above, claims 17-30 are therefore believed to be patentable over Datta, et al. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

3. DOUBLE PATENTING REJECTION

Applicant previously submitted a Terminal Disclaimer to co-pending U.S. Patent Application 10/517,580 herein. Accordingly, Applicant respectfully believes the instant rejection should be obviated.

CONCLUSION

Based upon the above remarks, the presently claimed subject matter is believed to be novel and patentably distinguishable over the references of record. The Examiner is therefore respectfully requested to reconsider and withdraw all rejections, and allow all pending claims 17-30. Favorable action with an early allowance of the claims pending in this application is earnestly solicited.

The Examiner is welcomed to telephone the undersigned practitioner if he has any questions or comments.

Respectfully submitted,

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